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feedback

Canadian Aviation Service Difficulty Reports

TC-1002099



Canada

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FeedBack is published quarterly by the Continuing Airworthiness Division of Transport Canada, informing the aviation community of reported day-to-day problems that affect aircraft airworthiness in Canada.

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The articles contained in *FeedBack* are derived from Service Difficulty Reports (SDRs) submitted by Aircraft Maintenance Engineers (AMEs), owners, operators and other sources in accordance with *Civil Aviation Regulation* (CAR) 591.

Service Difficulty Reports (SDR) are normally published verbatim. Transport Canada assumes no responsibility for the accuracy or content of any of these reports. Only grammatical or spelling errors are corrected and content may be reduced as well as personal references deleted.

All defects or occurrences should be reported to Transport Canada through the Service Difficulty Reporting Program. For additional information about this program or concerning an article in feedback magazine, contact your nearest Transport Canada Centre.

FeedBack est aussi disponible en français.

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TP 6980E

FIXED WING

AIRBUS A340

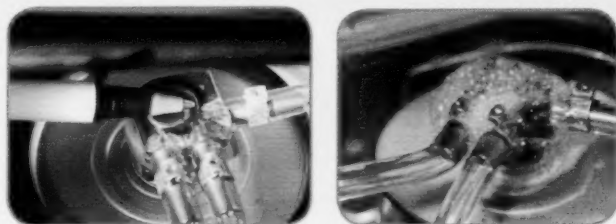
SDR # 20060511002

Passenger Oxygen Manifold Cracked

Twenty-two (22) manifolds were found cracked on this aircraft. The submitter looked at another aircraft to provide spares, but found most of its manifolds cracked too.

The vendor was contacted and will provide replacements. The manifold is made of a variety of plastic, which is brittle.

Transport Canada advises maintenance personnel, that when inspecting these types of oxygen manifolds to examine for potential cracks. ✖



BEECH B1900

SDR # 20060510007

Emergency Exit Door Handle Corroded

While conducting the interior cabin portion during Phase 3 inspection, it was discovered that both right emergency exit doors would not open from the inside. The two doors were removed via the exterior handle and disassembled.

Upon inspection it was found that the right coupling, P/N 129-514065-2, was mated to the shaft, P/N 129-514033-2, at all times. The handle linkage was removed and disassembled and it was found that there was just enough surface corrosion on the external surface of the shaft and internal surface of the coupler to keep the exterior handle engaged at all times.

The coupler was removed from the shaft and the surface corrosion removed. The unit was reassembled and the emergency exit handle function tested serviceable.

The discovery of this defect underlines the importance of conducting inspection to avoid potentially very serious problem in emergency egress evacuation. ✖

CESSNA 185

SDR # 20060116007

Flap Pulley Bracket Detached

Upon approach to landing on the lake, the aircraft immediately began to roll to the left when flaps 10 were selected. The pilot returned flaps to zero and the aircraft returned to level flight.

The pilot tried to deploy flaps again (slowly) and observed that while the right flap deployed normally, the left flap did not move. The aircraft then returned to a land-based airport where a flapless landing was carried out with no further problems.

Once on the ground the pilot selected flaps 10 and noted while the right flap deployed immediately, the left flap slowly fell to position. Maintenance discovered the flap pulley bracket (L/H) at sta. 65.33 was detached from the bulkhead assembly causing the flap to malfunction.

Transport Canada has received 30 SDR's since 1981 on this bracket. AME's are reminded to carefully inspect this area where small cracks on these brackets can rapidly develop into complete failure. Removal of the bracket may be necessary during this inspection. ✖



DE HAVILLAND DHC 2

SDR # 20060619007

Strobe Light Electrical Terminal Arcing

The pilot of a DHC 2 (Beaver) reported strobe light circuit breaker (C/B) popped during flight. Troubleshooting revealed that an incorrect C/B had been installed (5 amp instead of 7.5 amp). A new C/B was installed at that time and ground checked "serviceable".

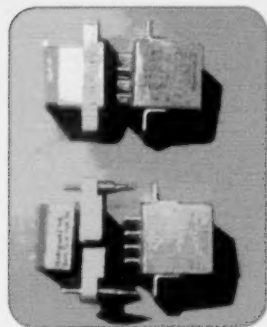
Several months later, the problem recurred during flight, but ground-checked "ok". The wing tips were removed and they noted evidence of arcing from the tank inboard wall/rib and wing tip boss terminal strip studs. Statically there was no contact, however, with tanks full of fuel during flight, contact occurred. The studs on the boss bar have sufficient length to trim 0.25" and still remain in safety.

The tips were re-installed with putty on the studs to verify clearance, and when removed, approximately 0.3" clearance was evident.

Transport Canada recommends that maintainers verify adequate clearances exist the next time it is accessed for indications of arcing. Verification of the proper size circuit breaker must be installed. ✖

A close-up photograph of a metal pipe or nozzle assembly. A white arrow points to a specific component, likely a valve or fitting, on the side of the pipe. The background is dark and indistinct.

a high risk of contact with airframe structure that could result in an electrical short. Additionally, the damaged relay could cause "weight on wheels" (WOW) circuit failure and possibly cause landing gear extension problems in the emergency alternate release landing gear selection.



The relay in question is used in multiple systems throughout the aircraft. Be vigilant during inspection for this reported defect in area other than mentioned above. This defect has been forwarded to the type certificate holder. ✖

DE HAVILLAND DHC 8-100

SDR # 20060801008

Flap Torque Tube – Severely Chafed

During a line maintenance walk-around check, the aircraft maintenance engineer found that the left wing flap inboard (section between nacelle and fuselage) torque tube had been chafed through in one spot by its retaining bracket. Torque tube assembly part number 734187B replaced with serviceable assembly. Functional test completed on flap system and aircraft returned to service.



The torque tube chafing in this area does not seem to be a common occurrence. The chaffing had sufficient time to wear through the thickness of

the torque tube and, if not inspected at that time, failure was imminent.

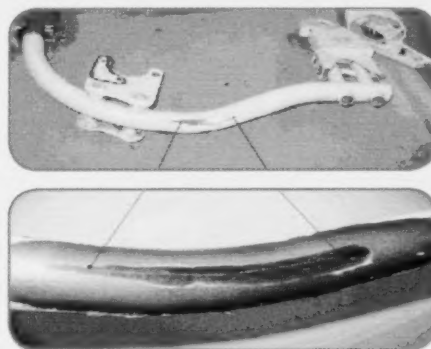
Transport Canada recommends paying particular attention while carrying out visual inspections in this area. Report any findings that are a service difficulty as defined in the Airworthiness Manual 591, Service Difficulty Reporting. ✖

EMBRAER EMB 110P1

SDR # 20060810006

Elevator Torque Tube Cracked

While doing an inspection of the left elevator and its associated parts, a crack was found on the elevator balance weight support. The crack measured 2 3/8 of an inch in length and started approximately 2 inches below the lower through-tube. The balance support was replaced with a new one.



ENGINES

AVCO-LYCOMING
LTS-101-600A-2 (AS350)

SDR # 20060612006

Engine Overspeed Limiter

The rotorcraft was on final approach to the staging area when, at approximately 300 feet AGL, the pilot head the low rotor RPM horn activate and the engine began to lose power. A successful autorotation landing was carried out.

After landing, the engine was still running and once the collective lever was lowered, the engine returned to full power. The pilot tried raising the collective and each time he did so, the engine would decelerate and the main rotor RPM would decay until the collective was lowered again.

The aircraft was shut down and examined by the maintenance engineer on site. No defects were found so the aircraft was started and appeared to operate normally. The pilot was able to hover the aircraft without any adverse symptoms. The previous systems could not be duplicated and the definite cause of the engine

deceleration remained unknown. As a precautionary measure, all engine control components were replaced before further flight.

Further to the above, the SDR submitter provided recent SDR updates stating that the cause of the engine deceleration was due to many worn parts within the engine Overspeed Limiter.

The SDR database revealed several other failures of the subject overspeed limiter. ✖

CFM INTERNATIONAL CF34-3A1
[CL600 2B19 (RJ100)]

SDR # 20060607003

Variable Guide (VG) Vane Assembly – Spindle Nuts

The aircraft was climbing through 2000 feet when the left fan speed (N1) began to decay followed by engine failure. An emergency was declared and an uneventful landing was carried out.

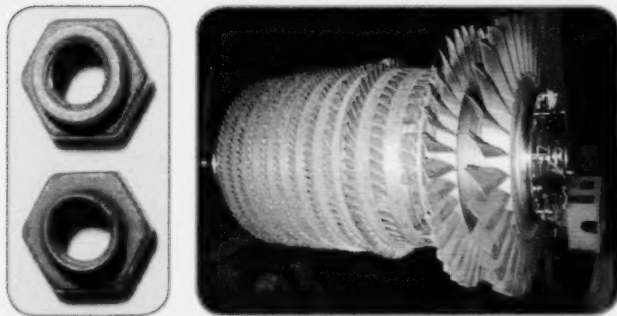
Maintenance personnel discovered that the VG vane spindle nut had backed off thereby liberating the 2nd stage VG vane. The vane traveled entirely through the cold and hot sections of the engine, damaging it beyond economical repair.

Results of the engine teardown revealed problems around the torque retention of the Variable Guide Spindle nuts. The purpose of the spindle nuts is to secure the VG actuation arm to each of the VG vanes. Other investigation findings included other loose VG spindle nuts and locking washers, thick and thin walled spindle nuts and single and double tabbed locking washers. The thin walled spindle nuts were observed to be loose, while the thick walled nuts were not.

Engine logbook records determined that a previous operator had carried out the relevant General Electric Service Bulletin (SB) 72-0184. Notwithstanding, the operator will conduct a fleet wide inspection to re-do the manufacturers Service Bulletin (SB) 72-0184 to ensure check the configuration and security of the existing hardware.

TCCA recommend that maintainers pay particular attention to the VG actuation system hardware.

The engine manufacturer has been advised of the above problem and is investigating at this time. ✖



ROBINSON R-44 II (IO-540-AE1A5)

SDR # 20060802008

Continental Magneto Wires Chafed

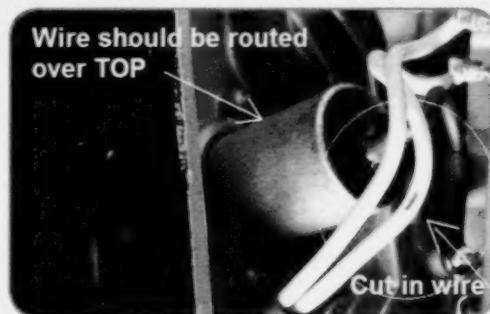
When the collective lever was lowered during descent, the engine became erratic. The engine oversped above 116% and the throttle governor was not working properly. The main rotor tachometer also indicated an overspeed above 114%.

Subsequent inspection of the right magneto found that the wire insulation had cut through. This damaged wire that carries the speed signal from the secondary points to the tachometer and speed governor had shorted

to ground. This caused an intermittent loss of signal resulting in erratic tachometer indication. The airframe manufacturer confirmed that this condition would cause the speed governor to malfunction.

The SDR submitter stated that improper magneto wire routing during the last inspection may have caused this in-flight engine malfunction.

The importance of proper wire routing and security cannot be overemphasized. ✖



PRATT & WHITNEY CANADA
PT 6A 67D (BEECH 1900D)

SDR #20060531016

Blade Failure

Upon applying takeoff power for departure, the pilot heard a loud bang. A rejected takeoff was carried out and the aircraft came to a halt. A passenger informed the crew that he saw debris fall off the RH wing. The RH engine was secured and the pilot taxied back to the gate where the passengers disembarked.

Investigation by maintenance personnel discovered that the RH engine appeared to have suffered a power turbine blade failure. The debris from the blades is what the passenger observed.

The engine was routed to the manufacturer for investigation.

There have been incidents of power turbine (PT) blade fractures on the PT6-67D engine, which is generally related to blade outer shroud Z-notch wear on the high time PT blades.

Transport Canada Civil Aviation (TCCA) recommends compliance with P&WC Service Bulletin 14369 to replace the 2nd stage PT blades due to blade fractures and wear at the shroud contact face. TCCA also recommend compliance with manufacturers SB 14259 & SB14172 affecting blade configuration. ✖

HEADS UP

Cold Weather Operations & Effect on Aircraft

The Canadian Cold Soak requirement is an additional technical condition (ATC) developed primarily for Transport Category aircraft to address identified hazard(s) unique to our Canadian climate. This certification requirement provides that aircraft and their systems function properly and do not introduce hazards to safety following a 10-hour exposure to ground temperatures of -35 C or lower. Cold weather operations service experience revealed that aircraft do not always function as designed following exposure to cold temperatures on the ground (cold soak). Aircraft system malfunctions have occurred as a result of a cold soak, despite cold temperature testing conducted in laboratories on individual components.

A number of difficulties have historically been identified and associated with aircraft ground cold soak (reference Advisory Circular AC500-006). Items of airworthiness significance found during in-service operational flying or during certification of the aircraft, which contains a low-temperature factor, are presented in the following list:

- a. Hydraulic oil seals may leak affecting mechanical reliability (e.g. landing gear, flight controls).
- b. Pneumatic lines may clog with condensation (ice).
- c. Fuel filters may clog with congealed (slushed) fuel.
- d. Reduction gear oil seals may harden and leak leading to a loss of pressure.
- e. Metal shrinkage, especially with dissimilar metals, resulting in control stiffness, jamming of doors, etc.
- f. Flight control position indicator sensors may malfunction.
- g. Electrical trim motors may slow or cut-out due to torque overload induced by stiff controls.
- h. Lubricants may harden, resulting in stiff mechanical engine and flight controls.
- i. Throttle (and other) micro-switches, for sequencing of ancillary systems, not properly set for temperature range.
- j. Air struts may fail (e.g. for main and emergency doors, leading to inability to properly open undercarriage doors).
- k. Control column boots may crack and fail, leading to foreign object ingress and jamming of flight controls.
- l. Electric flight instrument displays may fail.
- m. Computer-based control systems may not account for increased mechanical system response time at low temperature, resulting in system shutdown.
- n. Flight control cable tension will change as temperature falls.

The above list is not all-inclusive but does provide operators, owners and maintainers with areas to be cognizant of during cold weather conditions.

TCCA recommend that personnel operating all categories of aircraft be aware of the above information that can negatively impact and possibly jeopardize the safety of aircraft during cold weather operations. ✖

EQUIPMENT ADS

Transport Canada (TC) endeavours to send copies of new airworthiness directives (ADs), which are applicable in Canada to the registered owners of the affected products. Equipment/appliance ADs are often only distributed to our regional offices because the owners of aircraft affected by this type of AD are not generally known.

The following new ADs on equipment have been received by TC in the last three months. AMEs and operators of the affected products are encouraged to obtain further information or a copy of the ADs from their regional TC office, their local TCC, their PMI, or from the Civil Aviation AD website at: <http://www.tc.gc.ca/aviation/applications/cawis-swimm>

ABSC						
50068572	0000	ROTATING DISC	5013430	FAILED/BROKEN	20060512004	ONT
ACK TECHNOLOGIES						
E01	2560	BATTERIES	MN1300	UNSERVICEABLE	20060502008	PNR
E01	0000	BATTERY HOUSING	E0102E0103	CORRODED	20060516006	PNR
AMERI-KING CORPORATION						
AK450	0000	G-SWITCH		FAILURE	20060511003	ONT
B&C SPECIALTY PRODUCTS						
BC3151004	0000	STARTER	BC3151004	UNSERVICEABLE	20060612002	PNR
BENDIX CORP						
1527251	0000	O/B WHEEL HALF	152966153998	CRACKED	20060602005	PAC
S6LN1209	0000	CAM ON DISTRIBUTOR SHAFT		INTERNAL MAG LOOSE	20060602001	QUE
S6LN1209	0000	HOUSING	103493943	GOOD	20060417002	PAC
BOMBARDIER						
51SA16242	0000	DE-ICE BOOT	85720016004	DETACHED SPIGOT	20060628006	ATL
BRUCE INDUSTRIES						
059341	0000	BALLAST	059341	UNSERVICEABLE	20060510005	NCR
CLEVELAND AIRCRAFT						
40289	3246	WHEEL ASSEMBLY	40289	CASTING FLAWS	20060616004	PNR
DUNLOP TIRE & RUBBER						
AH52339	0000	HALF HUB	AH42276	CRACKED	20060512005	NCR
EMERGENCY BEACON COR						
EBC102A	0000	BATTERY	GS21	UNSERVICEABLE	20060504005	PNR
EUROCOPTER						
22129BC08006	0000	SCREW	22129BC080060L	UNSERVICEABLE	20060427006	PAC
GARRETT						
GTCP85129	4900	FIRE DETECTION LOOP		UNSERVICEABLE	20060424007	ONT
KELLY AEROSPACE						
MHB6018	0000	LIGHT WEIGHT STARTER		UNSERVICEABLE	20060619011	PNR
MESSIER DOWTY						
201045004	3213	OUTER CYLINDER		CORROSION	20060410006	ONT
POINTER INDUSTRIES D						
400010	0000	G-SWITCH		FAULTY	20060531026	PNR
SIKORSKY						
763510960041	0000	OIL JET	7635109105054	UNSERVICEABLE	20060620007	PAC
S613520600	6310	INPUT FREEWHEEL L/H R/H	6107435000060	DAMAGED	20060526005	PAC
SLICK ELECTRO INC						
6310	7414	IMPULSE COUPLING	M3050	BROKEN	20060526004	ONT
TELEDYNE CONTINENTAL						
IO470V0	0000	STARTER ADAPTER SHAFT	539568	USED	20060510008	ONT

FAA SPECIAL AIRWORTHINESS BULLETINS (SAIBs)

An SAIB is an information tool that alerts, educates, and makes recommendations to the general aviation community. It is non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive (AD).

<http://www.faa.gov/aircraft/safety/alerts/SAIB/>

SAIB #	MANUFACTURER	MODEL	ISSUE DATE DD/MM/YY
NE-06-72	Insight Instrument Corporation- Graphic Engine Monitors (G.E.M.)	GEM-610/P/N 601-001 Mod "C" and GEMINI 1200/P/N 1200-001 Mod "C"	09/29/2006
NM-06-71	Fokker	F.28 Mk 0100	09/26/2006
NE-06-70	Honeywell International Inc.	TPE331 and TFE731 series engines	09/25/2006
NE-06-69	Honeywell International Inc.	TPE331 series turboprop, and TSE331-3U model turboshaft engines	09/20/2006
SW-06-68	Rotorcraft	Forward Looking Infrared (FLIR) systems with embedded laser capability	09/20/2006
CE-06-46R1	Cessna	150, 152, 172, 172R, 172S, 172RG, 177, 177RG, 180, 182, 182S, R182, T182, 185, 206, T206, 208, 210, T210, T303, 310, 335, 340, 402, 404, 414, 421, 425, and 441	09/18/2006
NE-06-67	Engines	Flexible lines and hoses that carry flammable fluid	09/14/2006
CE-06-66	Scottish Aviation (British Aerospace, Jetstream Aircraft Ltd now maintained by de Havilland Support Ltd)	Bulldog Series 100 and Series 120 airplanes	08/28/2006
SW-06-65	Eurocopter Deutschland GMBH (ECD)	BO-105 series helicopters	08/22/2006
SW-06-64	Arrow Falcon Exporters, Inc.; Firefly Aviation Helicopter Services; Garlick Helicopters, Inc.; Global Helicopter Technology, Inc.; Haggglund Helicopters, LLC; International Helicopters, Inc.; Precision Helicopters, LLC; Robinson Air Crane, Inc.; San Joaquin Helicopters; S.M.&T. Aircraft; Smith Helicopters; Southern Helicopter, Inc.; Tamarack Helicopters, Inc.; US Helicopter, Inc.; Williams Helicopter Corporation	HH-1K, TH-1E, TH-1L, UH-1A, UH-1B, UH-1E, UH-1F, UH-1H, UH-1L, and UH-1P	08/17/2006
	Southwest Florida Aviation International, Inc.	SW204, SW204HP, SW205, and SW205A-1	
CE-06-63	SOCATA - Groupe Aerospatiale	TB21	08/14/2006
CE-06-62	The New Piper, Inc.	PA-28R-200 Arrow and PA-28R-200 Arrow II	08/14/2006
CE-06-61	SOCATA - Groupe Aerospatiale	TBM 700 and TBM 850	08/11/2006
CE-06-60	SOCATA - Groupe Aerospatiale	TBM 700	08/11/2006
CE-06-59	Schempp-Hirth Flugzeugbau	Discus-2T, Discus-2cT, Ventus-2cT	08/11/2006
CE-06-58	Schempp-Hirth Flugzeugbau	Nimbus-2C, Mini Nimbus-HIS7, Mini Nimbus B, Mini Nimbus C	08/11/2006
NM-06-57	Airbus	A300, A310, A318, A319, A320, A321, A330, A340 airplanes	07/27/2006
	BBJ (Boeing Business Jets)	All airplanes	
	Boeing	707, 717, 727, 737, 747, 757, 767, 777 airplanes	
	BAE Systems	BAe 146 airplanes	
	British Aerospace Airbus	BAC-1-11 airplanes	
	Fokker	F.28 airplanes	
	Lockheed	L1011 airplanes	
	McDonnell Douglas Corporation	DC-8, DC-9, DC-10, MD-10, MD-11, MD-80, MD-88, MD-90 airplanes	
NM-06-56	The Boeing Company	727 and 737 series airplanes	07/19/2006
SW-06-55	Robinson Helicopter Company (RHC)	R22 and R44 helicopters	07/13/2006
NM-06-54	Transport Category Airplanes	Handheld fire extinguishers	07/11/2006
CE-06-53	Schempp-Hirth	Ventus-c, Ventus-cT, Ventus-cM sailplanes	07/06/2006
NE-06-52	Rolls-Royce Corporation (formerly Allison Engine Company)	250-C30, -C40, and -C47 series engines	07/06/2006

FAA UNAPPROVED PARTS NOTIFICATION (UPNs)

Published by: FAA, AIR-140, P.O. Box 26460, Oklahoma City, OK 73125. UPNs are posted on the Internet at:

<http://www.faa.gov/avr/sup/upn/upn.cfm>

NO. 2006-00051

ISSUED JULY 31, 2006

Affected Parts

Bell Model 206B helicopters: registration no. N16849, serial no. 2355; and registration no. N49588, serial no. 1726.

Purpose

The purpose of this notification is to advise all aircraft owners, operators, maintenance organizations, manufacturers, and parts distributors regarding improper maintenance and operations performed on Bell Model 206B helicopters with registration no. N16849, serial no. 2355, and registration no. 49588, serial no. 1726. Both aircraft were owned and operated by Bali Hai Helicopter Tours, Inc.

Background

Information received during a Federal Aviation Administration (FAA) investigation of the fatal accident involving aircraft N16849 revealed that Bali Hai Helicopter Tours, Inc. (Bali Hai), located at P. O. Box 626, Hanapepe, HI 96716, did not use or have in place an accurate method for tracking accumulated time on the two helicopters and their components. No times had been recorded for maintenance, repositioning, FAA check-ride, or all other flights not associated with flightseeing tours. When tracking flightseeing tours, Bali Hai recorded the projected time of the tours and not the actual flight time.

Evidence indicated that the hour meter for both helicopters had been inoperative and disabled for several years. In addition, pilots did not maintain any flight log that included entries for flight time. The information available is insufficient to determine the total time accumulated on the aircraft and their components. Therefore, the current status of the life-limited and overhauled parts of each airframe, engine, rotor, and appliance cannot be established.

In addition, evidence indicated noncompliance with information issued in Airworthiness Directives and technical and service bulletins as well as an absence of tracking scheduled inspections.

The table below presents a partial list of components that were installed on the aircraft.

PART NAME	PART NUMBER	SERIAL No.	QTY
Coll. Lever Assy.	206-010-467-001	RE-2972	1
Coll. Link Assy.	206-010-407-001	REFS-2335	1
Fitting	206-011-140-001	MIFS-1224	1
Fitting	206-011-140-001	MIFS-903	1
Freewheeling Assy.	206-040-270-003	BMB-10476	1
Hyd. Pump	206-076-022-005	B-354	1
Hyd. Servo Actuator	206-076-031-013	2572	1
Hyd. Servo Actuator	206-076-031-013	6157	1
Hyd. Servo Actuator	206-076-031-013	035	1
Latch Bolt	206-011-260-103	DI-15798	1
Latch Bolt	206-011-260-103	DI-15922	1
Lower Coll. Tube	206-001-194-001	USFS-466	1
M/R Blade Assy.	206-010-200-133	A-5444	1
M/R Blade Assy.	206-010-200-133	A-5633	1
M/R Grip	206-010-102-121	A-4174	1
M/R Grip	206-010-102-121	A-4305	1
M/R Hub	206-011-100-017	MDLM-0529	1
M/R Mast	206-010-332-121	FAJF-59234	1

PART NAME	PART NUMBER	SERIAL No.	QTY
M/R Trans. Sun Gear	206-040-662-101	A-505	1
M/R Transmission	206-040-002-029	BKW-10546	1
Main Driveshaft	206-040-015-103	A20-00942	1
Retention Pin	206-010-123-003	HBFS-1015	1
Retention Pin	206-010-123-003	HBFS-974	1
Retention Strap	206-011-154-105	LPFS-21429	1
Retention Strap	206-011-154-105	LPFS-21435	1
Sleeve Assy.	206-010-454-109	RE-8540	1
Support	206-010-452-113	A-2319	1
Swashplate Assy.	206-010-450-011	JJG-09610	1
Swashplate Bearing	206-010-443-001	17057	1
T/R Blade	206-016-201-133	CS-1202	1
T/R Blade	206-016-201-133	CS-1211	1
T/R Blade	206-016-201-133	CS-1885	1
T/R Blade	206-016-201-133	CS-1901	1
T/R Duplex Bearing	206-040-410-101	J-4001	1
T/R Gearbox Assy.	206-040-400-11	ALO-10611	1
T/R Hub Assy.	206-011-810-125	A-5072	1

PART NAME	PART NUMBER	SERIAL No.	QTY
T/R Yoke	206-011-811-009	GD-8014-12	1
Trunion	206-011-113-103	A-1505	1
Engine	250-C20B	CAE822805	1
Bleed Valve	23053176	FF-49569	1
Compressor	6890550	CAC-35701	1
Fuel Control	2524644-30NH 23065104	331998	1

PART NAME	PART NUMBER	SERIAL No.	QTY
Fuel Nozzle	6890917	AG-37369	1
Fuel Pump	6899253	T-4125	1
Gearbox Assy.	6894171	CAG-23266	1
Governor	23007505	14747	1
Governor	23065123	24392	1
Turbine Assy.	6898734	CAT-32678P	1

Recommendations

Regulations require that type-certificated products conform to their type design. Aircraft owners, operators, manufacturers, maintenance organizations, and parts suppliers and distributors should inspect their aircraft, maintenance records, and/or parts inventories for any of the referenced parts. If any of these parts have been installed on aircraft, appropriate action should be taken. If any are found in existing aircraft stock, the parts should be quarantined to prevent installation until a determination can be made regarding their eligibility for installation.

Further Information

Further information concerning this investigation, and guidance regarding the above-referenced parts, can be obtained from the FAA Flight Standards District Office (FSDO) given below. The FAA would appreciate any information concerning the discovery of the above-referenced parts from any source, the means used to identify the source, and the actions taken to remove the parts from aircraft and/or stock.

This notice originated from the FAA Honolulu Flight Standards District Office, 135 Nakolo Place, Honolulu, HI 96819-1845, telephone (808) 837-8300, fax (808) 837-8399; and was published through the FAA Suspected Unapproved Parts Program Office, AVS-20, telephone (703) 668-3720, fax (703) 481-3002. ✱

PACIFIC

January 31 & February 1

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WESTERN

Spring 2007

Coast Plaza Hotel & Conference Centre
1316 - 33rd Street NE
Calgary, AB T2A 6B6

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Fax: (403) 248-0749

Internet: reservations@vacr.bc.ca



CENTRAL

Spring 2007

Best Western Victoria Inn (Winnipeg Airport)
1808 Wellington Avenue
Winnipeg, MB R3H 0G3

Tel: 1-800-928-4067 or (204) 786-4801
Fax: (204) 786-1329

Internet: www.bvinn.com



ATLANTIC

April 22 & 21, 2007

Delta Beauséjour Hotel
750 Main St.
Moncton, NB

Tel: (506) 854-4344
Fax: (506) 858-0957

Reservations: 800-268-1133

Internet: www.atlanticame.ca/pages/2007-aranc.php



SERVICE DIFFICULTY REPORTS

LEGEND

JASC Joint Aircraft System Code number defining assembly/system/component

SDR NO. TCA assigned SDR control number - please quote in any correspondence or inquiries

RGN TCA region of SDR submitter:

PAC = Pacific PNR = Prairie and Northern

ONT = Ontario

VAR = More than one Region

QUE = Quebec

ATL = Atlantic

NCR = Ottawa (HQ)

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
AIRCRAFT						
<i>AEROSPACE</i>						
AS 332L	7120	TIE BOLT	332A32323300	SHEARED	20060419006	ATL
AS 350B2	6220	M/R STATIC STOP YOKE	350A37122823	BROKEN OFF	20060524003	PAC
AS 350B3	3110	PANEL	022TA0501	FALSE WARNING	20060613002	PNR
AS 350BA	6300	DISK ASSEMBLY	350A35105901	FAILED	20060605002	QUE
AS 350BA	7930	ENGINE OIL PRESSURE TRANS	704A37642043	UNSERVICEABLE	20060607006	PAC
ATR 42 300	3230	UPPER WIRING HARNESS		BROKEN	20060612001	ONT
ATR 42 300	3300	LAMP SOCKET	BVO320204114	OVERHEATED	20060628004	PNR
ATR 42 300	3320	SOCKET	E033601	OVERHEATING	20060509008	PNR
<i>AGUSTA</i>						
A109 AII	1410	HOSE		CRACKED	20060521002	QUE
<i>AIR TRACTOR</i>						
AT 502B	3240	HYDRAULIC LINE ASSY	20700600	CRACKED	20060606004	PNR
AT 802A	3213	BOLTS	MS1699799	LOOSE	20060508014	PAC
<i>AIRBUS</i>						
A310 304	2440	WIRE FIN 8ME		BURNT	20060502002	QUE
A310 304	3340	WIRES		BURNT	20060502003	QUE
A321 211	2800	OVERPRESSURE PROTECTOR	L95F50603	RUPTURED	20060404002	QUE
A330 243	0000	TORQUE LIMITER	532A000004	TRIPPED	20060410002	QUE
A330 340	2800	BOOST PUMP CANISTER	FRH280002	BROKEN	20060405005	QUE
A340 313	2330	4H VIDEO MACHINE	845438421	BURNED	20060404003	QUE
A340 313	3520	MANIFOLD	630130018	CRACKED	20060511002	QUE
<i>BAE - USA</i>						
HAWKER 800XP	2422	INVERTER	100160001	FAILED	20060516001	QUE
<i>BEECH</i>						
100	5532	SKIN TRAILING EDGE	11564000098	CRACKED	20060402001	NCR
100	5730	SKIN	5012016318	CRACKED	20060502000	PNR
100	0000	FRAME	FS227	CRACKED	20060619012	PNR
100	0000	SKIN	115430100605	CORRODED	20060619013	PNR
100	0000	SKIN	5012006896	CRACKED	20060619014	PNR
1900C	5313	BONDED PANEL	11443007529	CORRODED	20060511005	PNR
1900C	5610	WINDSCREEN	10138402523	SHATTERED	20060518004	PAC
1900C	5700	DOUBLER	11412004854	CRACKED	20060511008	PNR

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
1900C	5730	SKIN	1141200487374	CRACKED	20060511006	PNR
1900C	0000	RUDDER QUADRANT	1015000573	LOOSE	20060623002	PNR
1900D	2435	STARTER	23078019	SEIZED	2 SDRs	VAR
1900D	3260	WIRE		CHAFED	20060418003	ONT
1900D	5220	2 PART SHAFT AND COUPLER		UNSERVICEABLE	20060510007	ONT
1900D	5697	RELAY		FAILED	20060606008	ATL
1900D	5753	ACTUATOR BRACKET	MS24166D1	CRACKED	20060525004	PAC
200	2913	PUMP	HP3001	UNSERVICEABLE	20060529009	PAC
200	3260	UP LIMIT MICROSWITCH	BZ2RQ181A2	FAILED	20060419004	ATL
200	7800	EXHAUST GAS EXTRACTORS	780000	CRACKED	2 SDRs	VAR
200	0000	FLOW PACK UNIT	10138001313	UNSERVICEABLE	20060629007	ATL
58	5620	WINDOW	3541029114	CRACKED	20060512001	NCR
76	2900	HYDRAULIC POWER PACK	105932B	FAILED	20060509005	PAC
76	3221	CHANNEL	10541000057	CRACKED	20060410009	PAC
95B55	0000	BOLT	130909B20	LOOSE	20060624001	PNR
99	2752	FLAP ACTUATOR	505211984	CRACKED	20060516003	PNR
99	5400	NACELLE SKIN	999800007	CRACKED	20060425019	PNR
99	0000	FUEL DRAIN	CCA1550	BROKEN	20060622002	ATL
A100	2720	BEAM	504200337	CRACKED	20060613001	ONT
A100	3000	HEAT DUCT	9755501115	DISCONNECTED	20060406003	ONT
A100	3233	BEARING	503800043	WORN	20060613004	ONT
B100	5520	ELEVATOR TORQUE TUBE	11561010325	CORRODED	20060406002	QUE
B200	3230	TO TUBE ASSY	130909B40130909	WORN	20060504006	PAC
B200	5210	BOLT/NUT	504300377	MISSING	20060422009	PNR
B200	7120	DRAW BOLT	50980002185	LOOSE	20060419007	PNR
B200	7160	FITTING	1019100203	LOOSE	20060427000	PNR
B200	0000	VANE	1013810009	CRACKED	20060501006	PNR
B200	0000	SHUTOFF VALVE	6041H190	INTERMITTENT	20060410007	PNR
C90	0000	A/C START RELAY	5012015682	FAILED	20060615001	ONT
C90A	5330	SKIN	1004100151	WORN	20060509000	PNR
C90A	0000	CHANNEL	1099100531516	DAMAGED, GOUGED	20060531006	ONT
C90A	0000	TAB ASSY, ELEVATOR TRIM	5061001736	CRACKED	20060619004	ONT
C90A	0000			CRACKED	20060619002	ONT
BELL/TEXTRON - CANADA						
206B	2510	WEB ASSY	206031121023	CRACKED	20060605006	NCR
206B	3270	TAIL SKID ASSY	206020110005	CORRODED	20060605005	NCR
206B	5302	SUPPORT	206031418001	PITTED	20060622003	PNR
206B	5313	LONGERON	206031123059	CRACKED	20060605008	NCR
206B	7322	CONTROL CABLE	412B0220	BROKEN	20060606009	PNR
206L 1	5302	BULKHEAD	206032308003	CRACKED	20060420002	PNR
206L 1	6410	TAIL ROTOR BLADE	206016201131	BELOW TOLERANCE	20060504008	ONT
206L 3	2140	BLEED AIR HEATER	SH4635SW	UNSERVICEABLE	20060424009	NCR
427	6210	WSPS	STC	SERVICEABLE	20060403002	QUE
430	1000	NUT	NAS12918	CRACKED	20060612003	QUE
BELL/TEXTRON - USA						
204B	6320	MAIN TRANSMISSION	204040009061	CRACKED	20060605010	PAC
205A 1	6220	M/R DRAG BRACE FITTING	204011179003	CRACKED	20060602004	PAC
205A 1	6320	LIFT LINK FITTING	212030154101	CRACKED	20060524001	PAC
205A 1	0000	STARTER GENERATOR CABLE	206075265103	MELTED	20060622005	PNR
212	2841	DC CONTROL UNIT	51509002	MALFUNCTIONING	20060524007	PAC

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
212	2997	HYDRAULIC CLOG INDICATOR	212075369001	WIRES BROKEN	20060503001	PAC
212	6210	BLADE	212015501115		20060605012	PAC
212	6410	T/R BLADE ASSEMBLY	212010750105	CORRODED	20060515004	PAC
212	7714	RPM LIMIT DETECTOR	2090753261	OVERHAULED	20060601006	PNR
212	0000	SAME	SAME	UNSERVICEABLE	20060614004	QUE
214B	6320	SPINDLE	214030606005	BROKEN	2 SDRs	PAC
<i>BELLANCA</i>						
8GBC	5311	TUBE ASSY GEAR BEARING	21949	CRACKED	20060424005	PNR
8GBCB#	5753	AFT SPAR	5428L	OVAL HOLES	20060424006	ONT
<i>BOEING</i>						
727 223	5200	SWITCH	AE4888100	FAILED	20060503007	ONT
727 225	2782	RIB ACTUATOR SUPPORT	66191042	CRACKED	20060626001	ONT
727 225	0000	SLAT ACTUATOR	1U109592	INOP.IND.SWITCH	20060630003	PNR
727 227	2700	POSITION TXMITT		9660022001	20060621004	PAC
727 227	7600	BRACKET		65225847	20060412003	PAC
727 233	5230	SWITCH		FAILED	20060608001	ONT
737 522	2913	PUMP	623337	FAILED	20060425013	ATL
737 522	5600	EYEBROW WINDOW	58935734	CRACKED	20060508002	ATL
737 522	5610	FORWARD CAPTAINS WINDOW	5893543129	CRACKED	20060523002	ATL
737 522	5610	#4 WINDOWS	58935733, -734	SHATTERED INNER LAYERS	2 SDRs	ATL
737 6CT	2497	FEDER WIRE HARNESS	286A1062002	DAMAGED-	20060619010	PNR
737 724	3350	EMERG LIGHT ASSY	7002246001	LIGHT OUT	20060523012	PAC
737 724	5315	FLOOR BEAM	141A550424	CORROSION	20060523011	PAC
737 724	5315	FLOOR BEAM	14A55067	CORROSION	20060523010	PAC
737 7CT	2422	STATIC INVERTER	100201022	FAILED	20060620003	PNR
737 7CT	2622	PORTABLE FIRE EXTINGUISHER	898052	UNSERVICEABLE	20060608008	PNR
757 200	0000	AFT SPAR UPPER CHORD		EXFOLIATED	20060413009	PAC
757 200	0000	LOWER SKIN FAIRINGS	148N73081	CHAFED	20060413008	PAC
757 200	0000	NOSE SKIN	114N40827	EXPLOATED	20060413010	PAC
767 328	5610	WINDSCREEN	141480149		20060516007	NCR
<i>BOMBARDIER</i>						
BD 700 1A10	0000	R/H BELLY ACCESS PANEL	GS29701378	MISSING	20060407008	QUE
CL600 2B19 (R)100	2730	HI-LITE FASTENER	HST22DU522	SHEARED	20060405004	ATL
CL600 2B19 (R)100	2820	FUEL COLLECTOR BOX	601R626765	FAILED	20060403004	ATL
CL600 2B19 (R)100	2910	ELBOW	MS21907D6	CRACKED	20060403020	ATL
CL600 2B19 (R)100	2913	HYDRAULIC PUMP	848847	FAILED	20060606007	ATL
CL600 2B19 (R)100	5342	MAIN ATTACH BUSHINGS	600230681	WORN	20060404006	ATL
CL600 2B19 (R)100	5610	CAPTAIN'S WINDOW	NP1393225	CRACKED	20060421013	QUE
CL600 2B19 (R)100	5610	SIDE WINDOW	NP1393222	CRACKED	20060616008	NCR
CL600 2B19 (R)100	7110	PANEL ASSEMBLY	2285008114	FAILED	20060515001	ATL
CL600 2B19 (R)100	7200	ENGINE	CF343A1	FAILED	20060607003	ATL
CL600 2B19 (R)100	7321	FUEL CONTROL	414770P02	UNSERVICEABLE	20060424001	NCR
CL600 2B19 (R)100	7830	ACTUATING ARM	22850291109	FAILED	20060523001	ATL
CL600 2B19 (R)100	7830	REVERSER TRACK ASSEMBLY	22850809801	FAILED	20060605004	ATL
CL600 2B19 (R)100	5610	WINDSHIELD	NP13932112	CRACKED	20060407001	NCR
CL600 2C10 (R)700	2460	BUS BAR	S69381	UNSERVICEABLE	20060604001	QUE
CL600 2C10 (R)700	2710	LINK ASSEMBLY	272955	BROKEN	2 SDRs	NCR
CL600 2C10 (R)700	3510	OXYGEN LINE	S694603	WORN	20060605001	QUE
CL600 2C10 (R)700	5610	WINDSHIELD	NP13932112, -113, -221	CRACKED	6 SDRs	VAR
CL600 2C10 (R)700	5610	CO-PILOT WINDSHIELD	601R3303318	CRACKED	20060503010	NCR

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
CL600 2C10 (RJ700)	7314	SUPPORT BRACKET	6272017203	BROKEN	20060521001	NCR
CL600 2D15 (705)	1410	NUT- HYDRAULIC LINE ELBOW	B030212604	NEW	20060619005	ONT
CL600 2D15 (705)	3300	LIGHTING SYSTEM		BURNT	20060413003	ATL
CL600 2D15 (705)	5280	HINGE FITTING	CC6701057113	CRACKED	20060407005	ATL
<i>CANADAIR</i>						
CL215 1A10	2910	CHECK VALVE	AN62498	SEPARATED	20060427007	PNR
CL215 1A10	5244	PROP GOVERNOR		OVERSPEED	20060626004	PNR
CL215 1A10	5244	DOOR INST - WATER	2153300688	LOST	20060627006	PNR
CL215 6B11(CL215T)	2932	PRESS SWITCH 700 PSI	2157752322	FAILED	20060612005	QUE
CL215 6B11(CL215T)	0000	4-UP LOCK- SWITCH	1EN243R1	DEFECTIVE	20060516002	QUE
CL215 6B11(CL415)	2721	RUDDER TRIM MOTOR	215900018	UNSERVICEABLE	20060502001	QUE
CL215 6B11(CL415)	0000	FIRE BOTTLE S/N 65098DR	2157950262	UNSERVICEABLE	20060424003	QUE
CL600 2A12(601)	2810	VENT LINE	600626401	SCRAP	2 SDRs	ONT
CL600 2A12(601)	3421	TRANSFORMER	175E28CT	UNSERVICEABLE	20060428002	QUE
CL600 2B16(604)	2133	OUTFLOW VALVE	1036322	UNSERVICEABLE	20060403003	QUE
CL600 2B16(604)	2700	TRANSMITTER BRACKET	600913563	FRACTURED	20060504007	NCR
<i>CESSNA</i>						
172N	2311	MASTER AVIONIC SW RELAY		DEFECTIVE	20060406001	NCR
172N	3340	SWITCH	S21604	DEFECTIVE	20060509002	ONT
172P	0000	SEAT BOTTOM ASSY	05141823	CRACKED	20060630004	ONT
172P	0000	SEAT STOP	05112421	CRACKED	20060630002	ONT
172RG	5540	RIB	24130015	CRACKED	20060510002	ONT
172S	3340	LANDING LIGHT SWITCH	CM358910	UNSERVICEABLE	20060616003	ONT
185F	5712	L/H INBOARD FLAP	122101015	UNSERVICEABLE	20060505003	PNR
195A	0000	BATTERY CONTACT		DEFECTIVE	20060629008	PAC
207	3220	LINK ASSY UPPER TORQUE	12436351	CRACKED	20060514001	PAC
207A	8000	START SOLENOID	51577A1	STUCK CLOSED	20060620006	PNR
208	2910	PRESSURE SWITCH	GPP125040	NEW	20060606010	PNR
310Q	7322	THROTTLE CABLE	991026720	BROKEN	20060602003	PNR
401B	3213	MAIN GEAR UPPER TRUNION	5041000206	CRACKED	20060510011	PNR
550	2720	CHANNEL	5565096	BROKEN	20060608010	PAC
550	3241	ANTI-SKID SERVO	991230512	UNSERVICEABLE	20060529010	ONT
550	0000	FLANGE	24538400	DEBONDED	20060629003	ONT
560	2150	AIR CYCLE MACHINE	73838426	DAMAGED	20060515007	PAC
750	5610	WINDSHIELD	99143809	SHATTERED	20060608009	PNR
A185E	0000	CONTROL SHAFT	041321318	UNSERVICEABLE	20060608003	NCR
A185F	3246	FORWARD STRUT R/H	34A2000204	SHEARED	20060518003	QUE
A185F	5510	LH REINFORCEMENT	07321014	BROKEN	20060516004	PNR
A185F	5511	SPAR	107326022	CRACKED	20060515005	ONT
A185F	5712	RIB	05230821	CRACKED	20060425002	PAC
A185F	5753	FLAP TRACK	122101015	CRACKED	20060509001	PNR
T207A	5200	LEFT JAMB	12118061	CRACKED	20060511001	PAC
U206F	8530	CYLINDERS		CRACKED	2 SDRs	QUE
U206G	0000	BULKHEAD FWD DR POST	12139881	CRACKED	20060629004	ONT
<i>CONAIR</i>						
FIRECAT	2720	ROD END	M4612BFG	BROKEN	20060615006	PAC
<i>CONVAIR - CANADA</i>						
440	2497	WIRE HARNESS		CHAFING	20060516008	PAC
440	3250	NOSEWHEEL STEERING	10150	UNSERVICEABLE	20060617001	PNR

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	Rgn
DASSAULT						
FALCON 50	5514	GUIDE PLATE	F50B381003111	BENT SERVICEABLE	20060615002	NCR
FALCON 50	7110	S DUCT DOOR	F50B258707		20060410003	QUE
DE HAVILLAND - CANADA						
DHC 2 MKI	2800	FUEL CHECK VALVE	374475	CRACKED	20060420001	ONT
DHC 2 MKI	2800	FUEL VENT TUBE	C2P1551A	NON-CONFORMANCE	20060529008	NCR
DHC 2 MKI	3246	WIRING STRUT L/G FITTING	VALTBS12091	CORRODED	20060524002	PAC
DHC 2 MKI	3340	WING TIP TANK	10128	SHORTED	20060619007	ONT
DHC 2 MKI	7160	FLAP ASSY HOT AIR	C2E1079	CRACKED	20060512006	PAC
DHC 2 MKI	7414	MAGNETO	B196689RH	DEATH	20060528001	QUE
DHC 2 MKI	7923	OIL ADAPTER	C2L293A	CRACKED	20060619008	ONT
DHC 3	3246	AFT L STRUT TUBE	AJ78241	UNSERVICEABLE	20060403021	PAC
DHC 3	3246	AFT SPREADER	AJ78211	CRACKED, UNSERVICEABLE	20060403023	PAC
DHC 3	3246	AFT STRUT LH	J78221	CRACKED, UNSERVICEABLE	20060403022	PAC
DHC 3	3246	BASE PLATES	J78112	CORRODED UNSERVICEABLE	20060403024	PAC
DHC 3	3246	BOLT	C3US1563	FAILED	2 SDRs	PAC
DHC 3	3246	CLEVIS, FR STRUT	J7819	UNSERVICEABLE	20060403025	PAC
DHC 3	5210	STRUT, DOOR L/R	C3FS24950	UNSERVICEABLE	20060403029	PAC
DHC 3	5520	SERVICE BULLETIN	SB350	UNSERVICEABLE	20060403030	PAC
DHC 3	5751	AILERON	C3WA121	UNSERVICEABLE	20060406009	PAC
DHC 3	0000	FLAP, INBD TRAILING	C3WF333	UNSERVICEABLE	20060407004	PAC
DHC 3	0000	FLAP-LUG	C3W385	BOGUS	20060407003	PAC
DHC 5A	2720	HYDRAULIC RUDDER PUMP	6307901	OVERHAULED	20060502006	PNR
DHC 6 300	3210	LEG-WELDED	C6U1180	UNSERVICEABLE	20060612007	NCR
DHC 6 300	3213	METERING TUBE	13A04270006	USED/FAILED	20060607002	ONT
DHC 7 102	2730	SERVO DRIVE	4006719904	FAILED	20060504002	ONT
DHC 8 102	2730	SPRING LINK	DSC5523525	NEW	20060418002	ATL
DHC 8 102	3040	WINDSHIELD	07802	CRACKED	20060525001	ONT
DHC 8 102	7321	RELAY BASE	CL12068161	FAILED	20060508006	QUE
DHC 8 102	7931	VALVE ASSEMBLY VERNATHERM	45E041	O-RINGS SOFT	20060525002	ATL
DHC 8 106	7321	RELAY BASE	CL12068161	FAILED	20060508003	QUE
DHC 8 202	2710	SPRING	82740037101	BROKEN	20060519003	ONT
DHC 8 202	3240	ROTATING DISC	2445901	DAMAGED	20060404004	QUE
DHC 8 301	6121	SHAFT	87620130101	BROKEN	20060424008	ATL
DHC 8 311	2730	KEY	NAS558P4048	UNSERVICEABLE	20060418001	ATL
DHC 8 311	3600	SELECTOR PANEL	1305221	FAILED	20060626006	PAC
DHC 8 311	5314	BOLT	NAS110410	MISSING	20060519001	ONT
DHC 8 311	6123	PROP CONTROL UNIT	78249047	UNKNOWN	20060517002	PAC
DHC 8 402	2720	DIODE	591841	SERVICEABLE	20060421018	QUE
DHC 8 402	3244	TIRE	PNDR0231T	RETRADED #2	20060421022	QUE
EMBRAER						
EMB 110P1	2150	CABIN VENT BLOWER	C180559A	BURNED OUT	20060607004	NCR
EUROCOPTER DEUTCHLAND						
BO105 S CDN BS 4	6320	M/R TRANSMISSION	4638001001	CHIP	20060530001	ONT
FAIRCHILD						
SA227AC	3211	BOLT	AN324A	SHEARED	20060511004	ONT
SA227AC	3230	HYD LINE	27810061011	LEAKING	20060427003	ONT
SA227AC	3246	MAIN WHEEL ASSEMBLY	50073971A	BEARING FAILURE	20060606012	ONT
SA227CC	3260	STRIKER	2751000305	GOOD	20060511007	ONT

Make/Model	IASC	Part Name	Part No.	Part Condition	SDR No.	Rgn
FOUND BROS						
FBA 2C1	3246	FLY WIRE	AN676AC6300	BROKEN IN HALF	20060424002	ONT
GRUMMAN - FRANCE						
GA 7	0000	BODY ACTUATOR	7LM1025013	WORN	20060621002	QUE
GULFSTREAM - USA						
690D	5610	WINDOW	3600151, -52	CRACKED	2 SDRs	ATL
HAWKER SIDDELEY-UK						
HS 748 2A	3260	WARNING HORN	V0214	SEVERE OVERHEAT	20060418006	ONT
HS 748 2A	7710	PRESSURE TRANSMITTER	S122429R	UNSERVICEABLE	20060609003	PAC
HUGHES						
369D	3213	STRUT AFT L/H	369H600131	CRACKED	20060509007	PNR
LEARJET						
35	3411	HOSE ASSY	AN62704D0300	CRACKED	20060421016	QUE
35	3411	HOSE	MILH55934	CRACKED	20060404001	QUE
45	2750	FLAP CONTROL LEVER ASSY	6901315	UNSERVICEABLE	20060620004	PAC
45	2750	FLAP SYSTEM		UNSERVICEABLE	20060620005	PAC
45	5753	FLAP PANEL		UNSERVICEABLE	20060618002	PAC
LOCKHEED						
382G	7322	THROTTLE		FRICTION	20060413002	ONT
MCDONNELL DOUGLASHC						
600N	5302	TAILBOOM	600N3500505		20060608006	PNR
600N	0000	FITTING	500N34223	WRONG SIZE	20060614002	PNR
MITSUBISHI - USA						
MU 2B36A	5341	BARRELL NUT	NAS57712A	CRACKED	20060523005	ONT
MORAVAN						
Z242L	0000	DISTRIBUTER GEAR	M3008	UNSERVICEABLE	20060628001	ONT
PILATUS - SW						
PC 12 45	2932	HYDRAULIC SWITCH	973811430	FAILED	20060508004	ONT
PC 12 45	3340	LED NAV LAMPS	9728787158	FAILED	20060405006	ONT
PC 12 45	6123	FEATHERING SOLENIOD VALVE	1310160	OVERHAULED	2 SDRs	ONT
PIPER						
PA23 250	2140	HEATER EXHAUST TUBE	30670000	SEPARATED	20060602002	ONT
PA28R 200	2900	HYDRAULIC POWER PACK	HYC5005	BRUSHES FAILED	20060612004	PNR
PA28R 201	2410	ALTERNATOR	4111810	FAILED	20060421017	QUE
PA31	2822	PUMP ASSY	A10014D44	FAILED	20060524004	PNR
PA31 325	2912	O-RING	MS2877816	FAILED	20060530003	PNR
PA31 350	2912	HYD. FILTER ASSY.	460635	CRACKED	20060428003	PNR
PA31 350	3221	LINK ASSY.	4033600	CRACKED	20060531025	PNR
PA31 350	0000	RH FLAP TRANSMISSION	1216001	SHEARED DRIVE	20060623001	PAC
PA31 350	0000	THROTTLE CABLE	2489418	FAILED	20060615004	PNR
PA31T	5510	RIB, STABILIZER	46530003	CRACKED	20060510013	ONT
PA42 720	2133	VALVE ASSEMBLY	7331802	USED/UNSERVICEABLE	20060405007	ONT
PA42 720	3411	SWITCH	688160	CORRODED	20060427005	PNR
PA44 180	2710	AILERON BALANCE CABLE	62701123	FRAYED	20060508007	ONT
PA44 180	3211	RETAINER PIN ASSEMBLY	6750200	WORN, CORRODED	20060516010	ONT
PA44 180	3221	NOSE SPAR ASSEMBLY	86444800	CRACKED	20060508008	ONT
PA44 180	3221	NOSE SPAR ASSY	86444800	CRACKED	20060508009	ONT
PA44 180	3230	RETAINER PIN ASS	6750200	WORN, CORRODED	20060516009	ONT

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
PA44 180	5712	WING RIB ASSY	7847506, -507	CRACKED	3 SDRs	ONT
PA44 180	0000	AILERON CONTROL CABLE	62701143	WORN TO LIMITS	20060508005	ONT
PA44 180	0000	MOUNTING FLANGE	86245023	CRACKED	20060621005	ONT
<i>PIPER AEROSTAR</i>						
PA60 601	5711	FWD SPAR - LOWER CAP	PA60601	UNSERVICEABLE	20060419002	PAC
<i>ROBINSON</i>						
R44	2510	BUCKLE	C6284	CRACKED	20060523004	PNR
R44 II	2400	RELAY	B2804	STUCK	20060510014	PNR
R44 II	2435	RING GEAR	72566	MISSING TEETH	20060518001	PNR
R44 II	2450	ALTERNATOR WIRE	C05914	LOOSE	4 SDRs	PNR
R44 II	6240	LOW ROTOR WARNING HORN	B3203	FAILED	2 SDRs	PNR
R44 II	6730	NUT	D4523	LEAKING	20060403026	PNR
R44 II	6730	SEAL		LEAKING	20060508013	PNR
R44 II	7314	FUEL PUMP	B8187B	GROWLING	20060510001	PNR
R44 II	7697	RELAY	VF741H11	STUCK	20060425001	PNR
R44 II	7720	CYLINDER HEAD TEMP	624600718	STICKING	20060606005	PNR
R44 II	7800	EXHAUST SHIELD CLAMP		FAILED	20060424004	NCR
R44 II	8000	RING GEAR	72566	MISSING TEETH	20060518002	PNR
R44 II	0000	EXHAUST COLLECTOR (L/H)	C1695	BENT/CRACKED	20060628003	ONT
R44 II	0000	EXHAUST HEAT SHIELD	D3171	CRACKED	20060628002	ONT
R44 II	0000	HYDRAULIC SERVO	D2121	LEAKING	20060623003	PNR
R44 II	0000	OVER TEMP SWITCH	A0582	STUCK	20060622004	PNR
<i>SAAB</i>						
340B	2432	WASHERS	AN960JD616	MELTED	20060509004	PNR
SF340A	3242	MAIN WHEEL ASSY	5009236	CRACKED	20060609001	PAC
<i>SIKORSKY</i>						
S61L	6320	REAR COVER	S613520060103	CRACKED	20060608011	PAC
S61N	2720	SERVO	S616561500	UNSERVICEABLE	20060517003	PAC
<i>SWEARINGEN</i>						
SA226TC	5210	RECEPTACLE	2720063907	CRACKED	20060407009	PAC
<i>SYMPHONY AIRCRAFT</i>						
SA 160	5310	TUBING	5300621501	CRACKED	20060531002	QUE
SA 160	7120	ENGINE MOUNT	7120000101	CRACKED	2 SDRs	NCR
ENGINE						
<i>ALLISON</i>						
250-C28B	7230	BEARING	20060403010	ONT		QUE
250-C30P	7260	FUEL CONTROL UNIT	23005747	SCRAPPED	20060504003	PNR
250-C30P	7320	FUEL CONTROL UNIT	23070613	BROKEN BOLT	20060413005	PAC
250-C30S	7210	OUTPUT SHAFT	7636109103104	BROKEN	20060605007	PNR
250-C47M	7230	IMPELLER	23064613	CRACKED	20060608005	PNR
501-D13	0000	SEAL	6844716	CRACKED	20060613003	PNR
501-D22A	7510	GASKET 14 TH STG BLEED		FAILED	20060601001	ONT
501-D22G	7200	TURBINE		FAILED	20060426003	PAC
AE-3007A1	0000	OIL TANK	23070328	RUPTURE	20060627002	QUE
<i>AVCO LYCOMING</i>						
IO-360-L2A	8520	CONNECTING ROD BEARING	LW13521	BROKEN	20060418005	PNR
IO-360-L2A	8520	CRANKSHAFT GEAR	13S19646	CRACKED	20060427001	PNR
LTS-101-600A-2	7200	O/S LIMITER		DEFECTIVE	20060612006	PNR

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
LTS-101-600A-2	7323	GOVERNOR	430110116	UNSERVICEABLE	20060605011	PNR
LTS-101-600A-3A	7322	FUEL CONTROL UNIT	430128806	FAILED	20060510003	QUE
O-320-D2J	8530	CYLINDER	LW12416	CRACKED	20060608002	PNR
O-320-E2J	8530	CYLINDER	SL32006WAZOP	CRACKED	20060509006	PAC
O-320-E2A	8520	CAMSHAFT	76097	DAMAGED	20060504009	PNR
O-320-E2D	7322	AIRBOX ASSEMBLY	055211313	SEPARATED	20060530004	PAC
O-320-E2D	7322	IDLE MIXTURE SCREW	43564	LOOSE	20060419003	PAC
O-320-E2D	7714	TACHOMETER	9848025	FAILED	20060407007	PAC
O-320-E2D	8530	CYLINDER	CL41CCST04CA	CRACKED HEAD	20060621003	ONT
O-320-E3H	7314	FUEL PUMP	AF15472	FAILED	20060523003	NCR
O-360-C2E	8520	CRANKSHAFT	74968	CORRODED	3 SDRs	ONT
O-540-B2B5	8520	CONNECTING ROD	74502	OVERHAULED	20060427002	PNR
TIO-540-A2C	7314	FUEL PUMP	200F5002	LOW PRESSURE	20060524006	PNR
TIO-540-A2C	8120	TURBOCHARGER	4066109020	OIL LEAK	20060524005	PNR
TIO-540-A2C	8120	VALVE-EXHAUST BYPASS	LW1277885	CRACKED	20060526002	ONT
TIO-540-J2BD	7322	INJECTION NOZZLE	LW18853	CONTAMINATED	20060622001	PNR
TIO-540-J2BD	7931	GASKET	AS349101	DAMAGED	20060516005	ATL
TIO-540-J2BD	8120	OIL SEAL	4038180047	FAILED	20060413006	PNR
TIO-540-R2AD	8530	ROCKER COVER	72242	SEPARATED	20060530005	ONT
<i>CFM INTERNATIONAL</i>						
CFM56-3C1	7920			SCORED	20060418004	ATL
<i>GARRETT</i>						
TPE331-10UA	7210	CARRIER ASSY	3582681	WORN	20060530007	PNR
TPE331-10UA	7260	TORQUE SENSOR BEARING	31035851	FAILED	20060627004	PNR
TPE331-10UA	7920	OIL FILTER	PI070	BROKEN	20060428001	PNR
TPE331-10UGR	6122	PROP GOVERNOR	8210263C	LEAKING	20060529004	PNR
TPE331-10UGR	0000	STRAIN GAUGE CANNON PLUG		UNSERVICEABLE	20060616006	PNR
TPE331-6	7200	PLENUM	8939735	CRACKED	2 SDRs	PAC
TPE331-6-252B	7920	OIL FILTER ADAPTER	B441172	CRACKED	20060405003	QUE
<i>GENERAL ELECTRIC</i>						
CF34-8C1	7532			STICKING	20060421014	QUE
CF6-80C2	7510	11TH STAGE DUCT	1885M24601	RUPTURED	20060526003	QUE
CT58-140-1	7260	THREADED SPLINED SHAFT	5018T38P02	SHEARED	20060510006	PAC
CT58-140-1	7397	T5 HARNESS	5003T78P04	NEW	20060413004	PAC
<i>PRATT & WHITNEY-CANADA</i>						
PT6A-135A	7250	CT SHROUD SEG RETAIN RING	3020159	DISTORTED	20060502004	PNR
PT6A-21	7200	ENGINE		UNSERVICEABLE	2 SDRs	QUE
PT6A-21	7310	FUEL FEED LINE	3027039	CRACKED	20060530008	ONT
PT6A-21	0000	PT SHAFT HOUSING #3 BEARING	310427801	CHAFED	20060627001	ONT
PT6A-25	7250	TURBINE		UNSERVICEABLE	20060425011	QUE
PT6A-25C	7200	ENGINE		UNSERVICEABLE	20060531011	QUE
PT6A-25C	7314	FUEL PUMP SPLINE		WORN	20060403008	QUE
PT6A-27	7200	ENGINE		UNSERVICEABLE	2 SDRs	QUE
PT6A-27	7532	CHIP DETECTOR		FAULTY	20060403012	QUE
PT6A-28	7210	TURBINE BLADE		CONTAMINATED	20060531012	ATL
PT6A-34AG	7240	ENGINE		FRACTURED	20060425015	QUE
PT6A-35	7200	DC REGULATOR		UNSERVICEABLE	2 SDRs	QUE
PT6A-41	7321	FUEL CONTROL		UNSERVICEABLE	20060531005	QUE
PT6A-41	7322	OIL LINE		LEAKING	20060501003	QUE
PT6A-41	7920		130F00014S0314		20060606011	ONT

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	Rgn
PT6A-42	7200	ENGINE		UNSERVICEABLE	2 SDRs	QUE
PT6A-42	7314	FCU/FUEL PUMP DRIVE SEAL	3022375	FAILED	20060405008	PNR
PT6A-42	7314	FUEL PUMP, HP EDP	02532330003	UNSERVICEABLE	20060410004	PNR
PT6A-42	7320	FUEL PUMP		UNSERVICEABLE	2 SDRs	QUE
PT6A-50	7200	ENGINE		UNSERVICEABLE	2 SDRs	ATL
PT6A-65B	7200	ENGINE		UNSERVICEABLE	20060615003	ONT
PT6A-65B	7250	SHROUD SEGMENT	3037347	LOOSE	20060526001	ONT
PT6A-67AG	7314	FUEL PUMP	510767	LEAKING	20060407006	ATL
PT6A-67D	7200	ENGINE				QUE
PT6A-67D	7200	POWER SECTION	3044700		2 SDRs	PAC
PW120	7310	LP & HP FUEL FILTERS		LEAKING	20060614005	PAC
PW121	7260	TOWERSHAFT		DISTRESSED	20060606006	PNR
PW123D	7321	DRIVE SPLINES	UNKNOWN	WORN	20060425006	QUE
PW150A	7250	NO. 5 BEARING OIL SCOOP		WORN	20060531007	QUE
PW306A	7910	PACKING - OIL CAP		MISINSTALLED	20060601003	QUE
PW306A	7931	LIP SEAL	30B296301	DAMAGED	20060531022	QUE
PRATT & WHITNEY-USA						
JFTD12A-4A	7300	ENGINE		FAILED	20060621001	PAC
JT8D-9A	7314	FUEL CONTROL UNIT	7436024	UNSERVICEABLE	20060403028	PAC
JT8D-9A	7510	ANTI-ICE VALVE	320115	UNSERVICEABLE	20060609004	PNR
R-985-AN-14B	7414	MAGNETO	SB9RU3	FAILED	20060626002	ONT
R-985-AN-14B	8530	CYLINDER ASSEMBLY	899353	CRACKED	20060531003	QUE
R-985-AN-14B	8530	PUSHROD COVER ASSEMBLY	282992	CORRODED	20060628007	ONT
WASP CB3	7920	O-RING	493476	DISPLACED	2 SDRs	PAC
WASP CB3	0000	CYLINDER, REAR	356996	CRACKED	20060629005	PAC
ROLLS ROYCE - GERMANY						
DART 534-2	7120	COMPRESSOR CASE	RK46348	LOOSE MOUNT	20060619009	ONT
DART 534-2	7712	TORQUE TRANSMITTER	1004PGSB		20060609002	PAC
ROLLS ROYCE - UK						
RB211-535E4-37	7830	HEAT SHIELD		DELAMINATED	20060502007	NCR
TELEDYNE CONTINENTAL						
IO-240-B	7310	ENGINE		FAILED	20060504004	QUE
IO-360-G	7310	INJECTOR LINE	630662	NEW	20060508001	ATL
IO-520-D	8530	CYLINDER	T1ST712ACA	CRACKED	2 SDRs	PAC
IO-520-F	8530	CYLINDER	T1ST712ACA	CRACKED	2 SDRs	PAC
IO-520-F	8530	CYLINDER	SA52000A1	CRACKED	20060605003	PNR
IO-520-MB	8011	STARTER ADAPTER SHAFT	629435	USED	20060510009	ONT
IO-550-F	8530	CYLINDER		BROKEN	20060528002	QUE
O-470-R	8530	#1 CYLINDER		LEAKAGE	20060419005	PNR
TURBOMECA						
ARRIEL 1D1	7200	UNDETERMINED		UNSERVICEABLE	20060510010	ONT
ARRIEL 1D1	7250	REAR BEARING	9609000408	FLAKING	20060524009	PNR
ARRIEL 1D1	7930	REAR BEARING ELECTRIC MAG	0235237790		20060509009	PNR
ARRIEL 2B	7334	LOW PRESSURE FUEL SWITCH	9550179130	LEAKS	20060621006	PNR
PROPELLER						
HAMILTON STANDARD						
14SF-7	6123	ACTUATOR	JV5	UNSERVICEABLE	20060530009	ATL

MAKE/MODEL	JASC	PART NAME	PART No.	PART CONDITION	SDR No.	RGN
HARTZELL HC-B3TN-3B	6112	BLADE DE-ICE BOOT	4E220010	UNSERVICEABLE	20060512002	PNR
MCCAULEY 2A36C29	6114	HUB	C2343	CRACKED	20060619006	ONT
D2A34C58	6111	BLADE	S90AT4	CRACKED	20060619001	ONT
D2A34C58	6114	HUB	D4716	CRACKED	20060619003	ONT
SENSENICH W69EK-63	6111	BLADE		CRACKED	2 SDRs	ONT

HANGAR NOISE

Maintenance Terminology

During discussions about aircraft maintenance programs, time and time again, the term “on-condition” is used, usually in conjunction with the term “hard time”. This is to differentiate between one maintenance concept that looks for reduced failure resistance that has dropped below a defined level, and another concept that recommends a scheduled removal and restoration of an item, regardless of its level of failure resistance.

In the case of the term “on-condition”, there is often a chance that this term will be confused with a third one called “condition monitoring”. This is partly due to the use of the word “condition” in both terms. Unfortunately, the concepts are completely different from each other; therefore a need for clear definition of these terms arises.

The terms “on-condition” and “hard time” relate to the tasks making up an aircraft maintenance program, while the term “condition monitoring” does not. Since a good definition is one that is brief, easily understood and consistently interpreted correctly, let’s see how we can meet these requirements for some commonly used aircraft maintenance terms.

On-Condition Tasks

Since the term “on-condition” is the one that has taken precedence as a modern maintenance concept, it will be dealt with first. This term has its roots in the discipline of Reliability-Centered Maintenance (RCM), which focuses on achieving the inherent safety and reliability capabilities of equipment, RCM principles were first applied to the development of airline maintenance programs, in 1978, which provided the most concise definition for on-condition tasks, namely:

“Scheduled inspections to detect potential failures.”

The reason such tasks are so defined is that they call for the removal or repair of individual units of an item (e.g. a fuel nozzle in a turbine engine) “on the condition that” they no longer meet the required standard. Conversely, it could be stated that these units would require no maintenance “on the condition that” they would continue to meet the required standard until the next scheduled inspection. In any case, on-condition concepts are only applicable to items that will exhibit evidence of gradual deterioration. By discriminating between units that require corrective maintenance and those that will survive without maintenance to the next scheduled inspection, on-condition tasks permit all units to realize most of their useful lives.

RCM as it relates to a wide variety of industrial applications provides the following explanation:

“On-condition tasks entail checking for potential failures, so that action can be taken to prevent the functional failure or to avoid the consequences of the functional failure.”

These tasks are called such because items, which are inspected, are left in service (no further maintenance action taken) on the condition that they continue to meet specified performance standards. Note that the emphasis is on functional failures and the avoidance of their consequences. For aircraft maintenance purposes, the above concepts can be appropriately reflected in the following definition:

“A program which uses scheduled maintenance tasks to detect potential failures and ensures that only items which no longer meet the required standards, are restored or discarded.”

Here the emphasis is on potential failures and the possibility of restoring the item to the required standard or replacing it with an item that meets the standard.

It can be stated that the four major categories of on-condition techniques include condition-monitoring techniques. This brings us to another term, which needs some elaboration.

Condition-Monitoring

The term “condition-monitoring”, as used in the aircraft maintenance world, has its roots in a logic system used by Boeing Aircraft Company (in 1968), for developing the Boeing 747 maintenance program. The term has to do with allowing a part to fail in service, and is therefore commonly referred to as “fly-to-failure”. Note that this has nothing to do with identifying evidence of reduced resistance to failure or the detection of potential failures and therefore does not constitute a maintenance task (i.e. there is no such thing as a condition monitoring maintenance task or program).

If the failure of a unit has no safety impact, and replacement after failure costs less than doing preventive maintenance prior to failure, the unit can qualify for condition monitoring. The choice of the term (by Boeing) is unfortunate, since the word “monitoring” implies that some sort of periodic check is being done on the unit, when in fact no check is done.

Units subject to condition-monitoring are permitted to remain in service without preventive maintenance until a functional failure occurs. This definition of condition monitoring, as applied in industry, is different and involves the use of specialized equipment to monitor the condition of other equipment. Clearly, a term may therefore be defined differently, depending on the meaning that the user of the term wants to provide. For aerospace use, the term “condition monitoring” means “fly-to-failure”.

Hard Time Tasks

Finally, the term “hard time” (and “soft time”) must be addressed. There appears to be no concise definition for this term. Instead, it is based on the assumption that complex items and their units have an expected or proven service life, and that their overall reliability invariably decreases with age. Hard time items therefore need to have a restoration task (overhaul) assigned to them.

The term most generally applies to engines, propellers, appliances and emergency equipment which need time limitations placed on them, well within their expected or proven service lives. A hard time task will usually be a single task calling for overhaul of the item and its units, in accordance with a prescribed set of instructions (an overhaul manual).

Although hard time items will still be subjected to periodic inspections, these inspections will usually not be as frequent as those for on-condition items, since deterioration is assumed to be constant and failure is less likely to occur before overhaul is necessary. Note also that these periodic inspections are not the same as on-condition tasks, since they do not monitor gradual deterioration and are primarily done to determine if the item will continue in service until overhaul.

If there is a need to do significant maintenance on an item prior to overhaul, and the item contains life-limited units, the term “soft time” may become applicable. This term is used to describe the option of replacing life-limited parts prematurely, while the item containing such parts is disassembled for maintenance purposes.

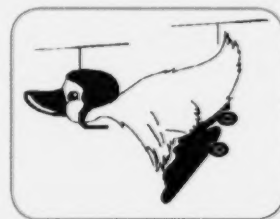
The assumption is that most operators would benefit economically by replacing such parts with new parts and would thereby forego the need to again disassemble the item in the near future. Although the removed unit would still have life remaining, it would not be significantly long enough to warrant continued service. ✖

SUSPECTED UNAPPROVED PARTS (SUPs)

There were no Service Difficulty Reports (SDRs) received between 1 April and 30 June 2006 that indicated any suspected unapproved parts.

In Canada, in accordance with *Canadian Aviation Regulation* (CAR) 591.0, SUPs should be reported

indicating your suspicion of an unapproved part on a regular SDR form or on the Internet at: www.tc.gc.ca/undes. ✖



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